

Listing of the Claims:

1. (Currently amended) An unmanned ocean vehicle for operating either on or below the surface of a body of water, said vehicle including comprising:
 - an enclosed hull having a payload bay;
 - a hybrid propulsion system having energy ~~collection means~~ collectors and energy ~~storage means~~ stores adapted for utilising at least solar energy, wave or water current energy, and wind energy;
 - a plurality of sensors for detecting predetermined environmental parameters; and
 - a communications system for transmitting data from said sensors about selected environmental parameters to, and for receiving command signals from, one or more remote stations ~~and/or cooperating ocean vehicles~~.
2. (Original) The unmanned ocean vehicle of claim 1 wherein the hull has an outer configuration having the general appearance of an aquatic animal.
3. (Original) The unmanned ocean vehicle of claim 1 wherein the enclosed hull is adapted to facilitate selective operation of the vehicle on or below the water surface.
4. (Currently amended) The unmanned ocean vehicle of claim 3 wherein the vessel includes ballast tanks for selective submerging and re-surfacing of the vehicle.
5. (Original) The unmanned ocean vehicle of claim 1 wherein the hybrid propulsion system includes a wing sail having an aerofoil configuration for propelling the vehicle using wind energy and having solar energy collectors disposed on the surface of the wing sail.
6. (Original) The unmanned ocean vehicle of claim 5 wherein the wing sail may be lowered to a declined position along the hull of the vehicle to reduce drag whilst continuing to collect solar energy.

7. (Currently amended) The unmanned ocean vehicle of claim 1 wherein the energy ~~storage means~~ stores includes electrical storage cells, ~~such as batteries or capacitors,~~ coupled to solar energy collectors.

8. (Currently amended) The unmanned ocean vehicle of claim 7 wherein the hybrid propulsion system includes an electrical machine mechanically coupled to a fluid drive element, wherein the electrical machine ~~may be~~ is supplied from the storage cells to drive the fluid drive element in a motor mode ~~or, in the alternative, the electrical machine may be driven by the drive element through wave action, water currents or during regenerative sailing to charge the storage cells in a generator mode.~~

9. (Currently amended) The unmanned ocean vehicle of ~~either claim 1 or claim 8~~ wherein the energy stores include ~~capacitors or other~~ rapid energy discharge devices, ~~such as fluid accumulators,~~ to provide the vehicle with a short sprint capability.

10. (Currently amended) The unmanned ocean vehicle of claim 1 wherein the payload bay is internally powered in order to carry electronic equipment supporting the environmental sensors for oceanographic or military use, ~~live saving or fire fighting equipment for search and rescue, and/or weapons relating to desired vehicle operations.~~

11. (Currently amended) The unmanned ocean vehicle of claim 1 wherein the environmental sensors ~~may include~~ sensors selected from the group including: anemometers, wind vanes, radars, radio frequency interceptors, optical band sensors, infrared band sensors, chemical/biological sensors, ocean current sensors, acoustic sensors, and bathymetric sensors.

12. (Currently amended) The unmanned ocean vehicle of claim 1 wherein the communications system ~~may include~~ comprises a global positioning system (GPS) ~~transmitter and/or receiver,~~ a LFB/SWB/marine band ~~receiver~~ transceiver, a wide band ~~receiver~~ transceiver, and a satellite ~~receiver~~ transceiver, together with suitable antenna arrays.

13. (Original) The unmanned ocean vehicle of claim 12 wherein the antenna arrays include deployable antennae arrays, suited to towed operation when receiving signals ranging from extremely low frequency (ELF) band to super high frequency (SHF) band, capable of transmission and reception in these bands

14. (Currently amended) The unmanned ocean vehicle of any one of claims [[2]] 1 to 4 wherein the vehicle is able to dive under the surface for prolonged periods using stored energy to avoid ships, storms or for stealth operations.

15. (Currently amended) The unmanned ocean vehicle of any one of claims [[2]] 1 to 4 wherein the hybrid propulsion system further includes a fuel cell for emergency use, such as emptying ballast tanks, to re-surface after a prolonged period of submerged operation.

16. (Currently amended) The unmanned ocean vehicle of claim 1 wherein the hybrid energy propulsion system further utilises, in addition to wind energy, wave or water current energy, and solar energy, only renewable energy sources, including: wave energy; temperature differential; and sea water activated batteries or fuel cells.

17. (New) The unmanned ocean vehicle of claim 7 wherein the hybrid propulsion system includes an electrical machine coupled to a fluid drive element, wherein the electrical machine is driven by the drive element through wave action, water currents, or during regenerative sailing to charge the storage cells in a generator mode.

18. (New) The unmanned ocean vehicle of claim 9 wherein the rapid energy discharge devices comprise electrical capacitors.

19. (New) The unmanned ocean vehicle of claim 9 wherein the rapid energy discharge devices comprise fluid accumulators.

20. (New) The unmanned ocean vehicle of claim 1 wherein the payload bay carries life-saving or fire-fighting equipment for search and rescue operations.

21. (New) The unmanned ocean vehicle of claim 12 wherein the antenna arrays are integrated into the wing sail or mounted on a stern portion of the enclosed hull.

22. (New) The unmanned ocean vehicle of claim 1 wherein the communications system is configured for transmitting and receiving command signals and data from one or more cooperating ocean vehicles.